

# **Ohio River Valley Waterways Management Plan**

A joint project of Marine Industry, the U. S. Coast Guard,  
and the U. S. Army Corps of Engineers

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## CONTENTS

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	Page No.
Introduction	5
River Crisis Response Strategy	7
River Traffic Management	13
Specific Incident Management (i.e., Breakaways, Sinkings, or Spills/Releases)	19
Personnel and Resources	21
Public and Media Relations	25
Communications	29
Funding	31
Recovery/Termination of Operations	33
Hydrology	35
Appendix A: Authorities and Responsibilities	37
Appendix B: Sample Broadcast Notices to Mariners	41
Appendix C: Sample Safety Zone	43
Appendix D: Glossary	47
Annex I: <a href="#">Paducah Area Specific Annex</a>	Annex I - 1
Annex II: <a href="#">Louisville Area Specific Annex</a>	Annex II - 1
Annex III: <a href="#">Huntington Area Specific Annex</a>	Annex III - 1
Annex IV: <a href="#">Pittsburgh Area Specific Annex</a>	Annex IV - 1

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## INTRODUCTION

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### Background

Navigational restrictions due to vessel sinkings and periods of high or low waters on the Ohio River and its tributaries in the Captain of the Port (COTP) zones of Paducah, Louisville, Huntington and Pittsburgh during 1996 and 1997 highlighted the need for a coordinated planning initiative. While these events were effectively handled, lessons learned revealed areas that could be improved.

In the cases of vessel sinkings resulting in restrictions to navigation, both industry and the Coast Guard operated normal, but increased communications to minimize impacts to river traffic. Where necessary, the COTPs put Safety Zones into effect and temporarily mandated incident specific navigation practices such as the use of helper boats or the use of a designated section of the navigational channel.

### CCGF

During the flooding in 1996, all four Captain's of the Port operated as Commander, Coast Guard Forces (CCGF) for their respective areas. This disaster response operations mode was as outlined in each command's CCGF 97xx-95 Operations Plan - an internal document for Coast Guard command and control, operations, administration and logistics during disaster responses. Operations were managed based on a Navy/DoD "N-Staff" organization, and developed from experience gained during national emergencies (e.g., OPERATION DESERT STORM). This plan provided for effective management but its use was largely unfamiliar to CG marine safety personnel, other agencies and industry. Notably, it provided for the effective acquisition and coordination of assets needed for the response.

During the flooding in 1997, the COTPs again operated as CCGF to access extra-theater assets. However, during this crisis, the command structure used by CCGF Huntington was the National Interagency Incident Management System (NIIMS) Incident Command System/Unified Command Structure (ICS/UCS), as outlined in the Huntington Environmental Response Operations (HERO) Plan. Use of ICS proved to be extremely effective, due to the increased familiarity with its terms and structures among local responders, industry, and the Coast Guard, and the inherently better organizational relationships it establishes. The fusion of the two response plans (HERO and the 9725-95 Plan) resulted in a highly effective system for response to river crises.

### The ORV-WMP

This document, the Ohio River Valley Waterways Management Plan (ORV-WMP), is intended to establish, in advance, the actions necessary for all parties concerned with a river crisis. It outlines basic waterway conditions needing to be monitored, establishes communications procedures, and delineates suggested trigger points for specific actions (i.e., specific high water levels requiring the issuance of a Broadcast Notice to Mariners, etc.). Where an ICS/UCS based plan is in effect, the ORV-WMP is intended to act as an annex to that plan.

As each COTP zone has unique considerations, geographic specific annexes are included for each COTP zone. These annexes address such issues as specific gauge reading/activity levels, telephone calling trees, etc.

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## River Crisis Response Strategy

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### **Mission Statement**

During a river crisis, all involved parties (government and industry) will work toward achieving the following missions through a cooperative waterways management system, as outlined in this plan:

- Reduce impacts to navigation and commerce caused by the river crisis in the safest and most effective manner possible.
- Minimize casualties including groundings, collisions, allisions, injuries, and barge breakaways attributable to the river crisis.
- Evacuate/assist people in distress as possible and necessary.
- Respond to oil spills and hazardous materials releases caused by the river crisis in accordance with established safe practices.
- Conduct post flood (event) surveys of MTR Facilities to assess damages which may increase pollution potential during the resumption of normal operations.

### **Planning**

Normal navigation can rapidly deteriorate during periods of unusual water conditions. During high water, swift currents, heavy debris flows, and the degradation of navigation channels and aids to navigation can increase the potential for river industry related accidents. During low water, restrictions on the navigable widths of the rivers and on the maximum safe drafts of barges can also impede - or prevent - safe navigation. Either situation has the potential to result in an increase in vessel casualties, barge breakaways, or pollution incidents. Extensive cooperation between the Coast Guard, the Army Corps of Engineers, and the river industry, has resulted in a broad-based mutual understanding of the needs and roles of the various parties during unusual river conditions.

This broad-based understanding has resulted in the development of a sequenced approach to changing conditions. Initial indications of unusual river conditions, as measured by river gauges and as indicated in National Weather Service forecasts, which are disseminated by the Army Corps of Engineers, result in immediate cautionary notices and the activation (via telephone information tree) of a teleconference system. Further, more stringent, steps are then taken as the situation deteriorates - based if possible on a consensus/partner-based forum consisting of the entire river community.

Use of this approach, which is in actuality only a recognition that the various government agencies and the industrial community are both focused on the safe use of the rivers, has proven highly effective without requiring burdensome regulatory measures. Where industry is willing to be self-policing, the government merely facilitates. As an example, the river industry in the Upper Ohio Valley area rapidly places extra mooring lines on barge fleets, or even prepositions towboats at or near each fleet, during rising river conditions. This pro-active approach by industry offsets the need for the Coast Guard to promulgate Safety Zones.

**Geographic Considerations.** The Ohio River Valley represents the COTP zones of Paducah, Louisville, Huntington and Pittsburgh. At its upper end, it is comprised of steep canyon/valley areas with limited flood plains. Many of the river banks are steep, and reinforced with rip rap, though no levees presently exist. Many townships are protected by flood control walls. Additionally, the area is comprised of multiple, short pools created by the lock and dam system - regulating the water levels and velocities. This results in only minor residential impacts occurring during flooding of the upper river regions (though in cases where flood walls are exceeded or breached the impact could be major - and immediate) and in rapid drainage of high waters down river.

At its lower end, these flood plains become more extensive. Below Smithland Lock and Dam the river is free flowing (unpooled) and many areas are protected by levees. Overall, generally shallower channel conditions and shoaling complicate navigation, particularly during low water situations.

Inter-pool traffic is limited during periods of extreme high water by lock outages and inadequate clearance under multiple bridges crossing the Ohio River. This results in a virtually self-regulating system. Safety Zones may be employed by the Coast Guard in controlling intra-pool traffic. During high water events, when inter-pool operations are shut down, the towboats in the area are usually assigned to monitor and maintain fleets within limited geographic areas - and these fleet tending operations have proven in the past to be a key to ensuring that no breakaways occur during a river crisis.

COTP Louisville established two safety zones during the March 1997 flood prohibiting inter- and intra-pool transit in an effort to prevent damage to residential property. The Safety Zones were established following numerous complaints from residents. Ultimately, the State of Kentucky and local Emergency Operations Centers requested CCGF Louisville to close the Ohio River to vessel traffic.

## **Organization**

When deemed necessary by the COTP and approved by the Commander, Coast Guard District Eighth (CCGD8(d)), Coast Guard Forces will be established in response to a river crisis. The COTP may choose to operate under an N-Staff structure or NIIMS ICS/UCS.

Establishment of CCGF will place specific Coast Guard assets under the operational control (OPCON) of the CCGF. Additional extra-theater resources such as Coast Guard helicopters and Coast Guard Reserve personnel may also be placed under the OPCON of the CCGF. Emergency funding may become available. Pre-designated in-theater and extra-theater operational units such as Disaster Response Units (DRU's) may be activated.

## **“X”-Staff**

The “X”-Staff structure was developed by the Department of Defense to standardize the command and control relationships and titles used by the various military services during periods of conflict. Each service has a designated alphabetic prefix, such as “G” for the Department of the Army and “N” for the Department of the Navy. As the Coast Guard functions as a part of the Navy during periods of war, it uses the “N” designator. The “N”-Staff is composed of six functional divisions:

N-1: Personnel,  
N-3: Operations,

N-2: Intelligence,  
N-4: Logistics,



While on their surface N-Staffs appear to be an expanded version of the civilian ICS/UCS, and can be extremely effective (as an example, the joint operations for OPERATION DESERT STORM), their terminology and functional break-downs differ. N-Staffs focus on the concept of 'force elements' (such as DRU's) which are exactly specified as to their composition. While admirably tailored to joint operations between military organizations, N-Staff is generally poorly understood among the many civilian organizations which become involved in a river crisis.

Complete breakdowns of the N-Staff system designated for use by each COTP may be found in the unit's OPLAN 97xx-95 plans.

## **NIIMS ICS/UCS**

Initially developed by Fire Fighters, the NIIMS ICS/UCS provides for maximum flexibility in varied situations, taking a functional approach to incident management. Overall, it is composed of a command and control element (with staff) and four functional elements called Sections. During a spill or release event, under UCS, the command and control element is comprised of a unified structure involving the states, the responsible party (or parties), and the Federal On-Scene Coordinator. Directly supporting the command element is a Command Staff, consisting of a Safety Officer, Liaison Officer, and an Information Officer. The four Sections (Finance, Logistics, Operations, and Planning) carry out the actual response operations and support work and are called the General Staff.

One of the strengths of ICS/UCS is that it focuses on function and doesn't mandate specific positions. A single individual might hold all of the functional roles during a very small response, while complex staff structures might be activated for larger incidents. As each element is brought on line, the functional role is assigned to specific individuals.

Another strength of ICS/UCS is common terminology. Each position in an ICS/UCS organization has defined roles and titles - which reduces the amount of confusion associated with the management of a crisis.

**The Command Element:** The command element includes the Incident Commander (or Federal On-Scene Coordinator or CCGF) and the Command Staff. During a complex incident, the position may be supported by a Deputy. The Command Staff personnel are called Officers. No deputies are assigned to them, though there may be one or more assistants.

**The General Staff:** Each of the four Sections are assigned Section Chiefs, who may be assisted by Deputies. The Sections may, as the situation dictates, be expanded further into Branches, Divisions/Groups, Strike Teams/Task Forces, and Units.

A complete description of these functional roles is contained in the Coast Guard Oil Spill Field Operations Guide (FOG), ICS-OS-420-1, including wiring diagrams of their interrelationships and job task descriptions.

## **Command Posts**

A command post will need to be established for the incident management team. This will either be at one of the Marine Safety Offices or at a mutually

acceptable site determined at the beginning of the incident by the Unified Command. Additionally, Forward Command Posts or On-Scene Command Posts may be required as the incident grows in scope.

General considerations for any command post are:

- There must be adequate physical space to allow all parties to conduct their business without interruption. Optimally, each Section should have its own rooms, fully furnished and equipped.
- There must be adequate security to control access, limiting such access to individuals with legitimate business in the site.
- There must be adequate space to allow private meetings.
- There must exist adequate communications capabilities such that telephone, facsimile, and radio communicates are sufficient to support the command staff. At a minimum, each Section will require separate voice, data, and facsimile lines. With the exception of those telephone numbers designated for the Public Information Officer/Center these telephone numbers should be unlisted!
- There must be adequate electrical power to support the equipment necessary, which may include:  
  
Computers  
Overhead projectors  
Facsimile machines  
Televisions  
Video Cassette Recorders
- As needed, the above listed equipment must be available for use.
- Given the unique nature of a flood or river crisis, additional consideration must be given to such systems as fax-on-demand, auto attendant phone systems, and the Internet for dissemination of information such as river conditions, weather forecasts, etc.
- Bulletin boards, dry erase boards, charts, and maps must be available - and the site must allow them to be placed on stands or mounted on walls.

## **Operational Phases**

Activation of CCGF includes three operational phases: Uncertainty, Alert, and Action. Normal activation flows through each phase in the order presented. However, a sudden crisis may require immediate activation of the Action Phase. Termination of CCGF will almost invariably be accomplished in a phase-down of activity and will pass through all three phases.

Suggested trigger points for the establishment of each operational phase based on water/weather conditions are included in the geographic specific annexes for each COTP zone.

## **The Uncertainty Phase**

The Uncertainty Phase initiates rapid preparations. It may be declared by the COTP or by CCGD8 when a river crisis is expected or has already occurred.

**The Alert Phase**

The Alert Phase activates the involved CCGF for final preparation. CCGD8 orders the Alert Phase. Involved COTPs may recommend declaration of the Alert Phase and shall by that time propose a specific mission statement for CCGD8 approval. The CCGD8 order will activate the CCGF, provide the approved mission statement, and identify any changes in Operational Control (OPCON) for all affected units.

**The Action Phase**

The Action Phase begins disaster response operations; DRUs start operating, if necessary. A CCGF is authorized to move from Alert to the Action Phase for their zone or to downgrade to the Uncertainty Phase. Whenever the Alert or Action Phases are downgraded to the Uncertainty Phase, the CCGF stands down. If the Uncertainty Phase need to be upgraded CCGD8 must again declare the Alert Phase. Following a catastrophic event, a CCGF may go immediately into the Action Phase. This should only be done when communications between the CCGF and District are interrupted and, in the opinion of the CCGF, immediate action is necessary to prevent loss of life or injury. CCGD8 must be notified as soon as possible after CCGF contingency response operations begin.

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## River Traffic Management

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### General

Control of river traffic during a crisis situation will be accomplished via two methods: The voluntary actions of industry and/or the establishment of mandatory controls by the COTPs or prospective CCGF. Additionally, during a severe flood or low water event, a state of de facto river closure may arise through the closure of the locks and dams by the U. S. Army Corps of Engineers or the inability of vessels to operate due to low channel depths.

Close coordination between industry and the government will ensure only the minimum necessary regulatory actions are taken and drastically heighten the safety of operations on the river.

### Coordination

Overall coordination will be accomplished via radio broadcast and teleconference calls. During a severe crisis, additional measures may be necessary. These measures may include the presence of an industry representative at the Coast Guard Command Post during the Alert/Action Phases to assist in tracking and monitoring the positions and destinations of vessels operating in the zone, and to identify the location of loaded/empty tank and chemical barges in the fleets.

### Radio Broadcasts

As outlined in Appendix B, informational broadcasts will be used as advisories to the river industry and the public as a whole. These "Broadcast Notice to Mariners" (BNTMs) are made by Coast Guard Group Ohio Valley at the request of the COTP/CCGF. They are transmitted via VHF radio channel 16 on a regular schedule, usually twice daily unless specifically requested to be more frequent.

In the event an incident necessitates immediate notification, Group Ohio Valley may also be requested to broadcast an "Urgent Marine Information Bulletin" (UMIB).

### Teleconference Calls

Upon the determination that a river crisis may occur - or has - the COTP/CCGF will initiate a conference call system. This may be via the dial-in conference tree at Coast Guard Headquarters or via a scheduled call through the telephone company. Such calls will be set up as often as needed for the crisis, though at least once daily is suggested. Participants in the conference call should include representatives from industry (usually from the "Ice Committee"), appropriate Coast Guard units (i.e. MSO's Pittsburgh, Huntington, Louisville, and Paducah, and Group Ohio Valley), and other government agencies (such as the U. S. Army Corps of Engineers).

### Fleet Operations

It is expected that fleeing area operators will monitor the conditions of their fleets during river crisis periods, in accordance with their fleeing permits and the best practices of prudent seamanship. In past events, this practice has included the staging of towboats at the fleeing areas when water conditions were fast/high and changing rapidly. Such self-regulation will ensure that appropriate assets are on hand to prevent - or respond to - accidents.

If necessary, the COTP/CCGF has the authority to mandate specific operations via Safety Zones or COTP Orders. Fleeing area operators not taking appropriate steps to prevent incidents (such as contracting with a towing company) may expect to see such action.

## **Red Flag Barges/Fleets**

"Red Flag" barges and fleets are required by existing regulation to be kept under continuous surveillance. Under normal pool conditions, this is usually accomplished by means of a roving security guard or possibly a landing attendant. However, during periods of high or low water, it is strongly suggested that the quality of surveillance be upgraded to include at least one person with the necessary river knowledge and line-handling experience to actually work lines and otherwise tend the fleet. An additional level of security to guard against possible breakaways is a manned towboat on scene and attending the fleet.

Because the large number of fleeting areas and pools on the Ohio River could make it impossible to stage a towboat at every active fleet, towboats will most likely be assigned to the larger fleets. Alternative preventive procedures should be followed for those remaining fleets.

At the onset of heavy weather or flood warnings, each fleeting area manager should take an inventory of towing vessels in the area which could possibly render assistance should a breakaway occur. Each manager should then pass this information to the local MSO where both vessel and fleet status charts will be maintained. This becomes especially critical when either the upstream or downstream Lock and Dam is closed or rendered inoperable, thereby preventing access by assist vessels from outside pools.

Each fleet operator should identify potential safe mooring "havens" within their pool, both upbound and downbound of their landings, in the event that a tow gets caught "in the system" by high water or flooding and must take refuge.

For periods of low water, anticipation and pro-active efforts are critical for safety. Loaded barges in fleets need to be closely monitored to ensure that they are not stranded - and moved to safer fleeting areas in advance where necessary.

## **Non-Regulated Cargo Fleets**

Ideally, non-regulated cargo fleets should strive to meet the same high standards for security and barge breakaway prevention as red flag fleets during high water. Each fleet operations guide should include reference to specific trigger points, such as minimum gauge levels within that pool, which will prompt personnel on duty to set specific preventive procedures in motion. Because no one response or combination of responses is appropriate for every high water situation, managers and landing personnel must exercise sound judgment in deciding upon the proper course of action. Some of the preventative actions that fleet managers should consider to reduce risk of barge breakaways during high water conditions are as follows:

- Remove barges from zone -- only if appropriate and if time permits -- or;
- Reduce fleet widths, or;
- Consolidate fleets into one larger fleet at nearest, most secure landing and attempt to obtain attending vessel, or;
- Maintain current fleeting arrangements but add additional landing personnel to assist w/ working fleet.

## **Terminal Loading Ops**

Barge loading terminals (coal, oil, aggregate, etc.) are required by law to operate in a safe manner. During periods of high/fast water, this will necessitate additional safeguards being put in place - or the complete cessation of operations. It is expected that industry will monitor its own operations. If, based upon the decisions reached during a teleconference call with the command staff, it is determined that operating under current river conditions is unsafe, industry will be expected to halt operations. Facilities failing to comply voluntarily will be formally ordered to do so by the COTP/CCGF. During periods of low water, terminal loading operations tend to be self-regulating: Terminals require the delivery of empty barges and the removal of loaded ones. Where water conditions restrict the transport of barges, terminals will be forced to curtail or reduce operations.

## **Commercial Vessel Ops**

It is expected that commercial vessel operators will conduct themselves in accordance with the best practices of prudent seamanship. During low water conditions, operators are expected to constantly monitor the available channel depth and the drafts of any barges in tow. During high/fast water conditions, it is especially important to ensure that towboats have adequate horsepower to safely handle any barges being moved. While industry vessel crews are the subject matter experts, companies seen to be operating 'at or outside the safety envelope' will be contacted directly by the COTP/CCGF - and may be required to take appropriate actions or to cease operations. Use of industry representatives in the Command Post will ensure that required actions are coordinated and effective.

Specific areas of consideration for commercial operators include:

### *Captains and Pilots:*

- First and foremost: Crew and vessel safety must always be preserved.
- During periods of low water:

Barge drafts may exceed channel depths. As the river level continues to drop, this may include barges already in tow. Captains and Pilots are expected to know the draft of their tows and the available channel depths.

Barge fleets may be moored further into the channel. Fleet widths may impede safe navigation and/or may require extra diligence in wiring.

Abandoned/sunken vessels may pose greater than normal hazards as the level of water diminishes. This holds especially true along river banks, where abandoned vessels may only be visible during low water events.

- During periods of high water:

Downbound tows will be moving faster with less control and longer stopping times. Upbound tows will be moving slower, with some loss of control.

It will require careful planning on the part of both up and downbound tows to avoid meeting in restricted areas.

During severe high water, it may be difficult to find a safe spot to tie a tow.

It may not be possible to make crew changes or pick up supplies by motorboat.

- When drift is present:

Wheels and rudders may be fouled.

It is difficult to make tows with drift between barges.

Drift in lock forebays make entering and exiting locks difficult and dangerous.

Drift collecting under tows may further slow upbound tows and make it more difficult for downbound tows to stop.

Drift can knock holes in boat hulls or barges.

Drift can further reduce the possibilities for making mid-stream crew changes or stores delivery.

- During periods of icing:

In moderate ice, it is difficult to shove tows.

Ice between and under barges acts like drift.

Tow work is slower and more difficult.

If a crew member were to fall overboard, they might go under the ice.

Midstream crew changes or deliveries are generally not possible.

In heavy ice, tow movement may be - or may nearly be - impossible.

Ice may cause damage to barges.

Lock forebays become dangerous and ice buildup on lockwalls makes lockages difficult.

#### *Companies:*

- First and foremost: The safety of employees, equipment and facilities must always be preserved.

- During periods of low water:

Barge drafts may exceed channel depths. As the river level continues to drop, this may include barges already in tow. Dispatchers should be aware of the barge drafts scheduled for pick up and should work closely with loading facilities to ensure that barges are not loaded excessively for predicted conditions.



Barge fleets may be moored further into the channel. Fleet widths may require adjustment to ensure navigational safety, though only within authorized permit conditions.

- During periods of high water:

Slower moving tows upbound and faster moving downbound tows, as well as longer landing times will disrupt schedules.

Additional boats may have to be hired to ensure critical deliveries and maintain the safety of personnel, equipment and facilities.

Some facilities may be isolated by high water.

- When drift is present:

Operations are slowed, as it is more difficult to shift barges in or out of fleets.

Additional wires and/or lines may be necessary at fleeting areas.

Crew changes, supply deliveries, and emergency medical attention for boat crews may be difficult or impossible.

- During periods of icing:

Ice may make some fleets inaccessible.

Boats and tows may be slowed, delayed, or stopped.

Deliveries may be difficult or impossible.

Ice is a danger to boats, tows, and fleets - especially running ice.

## **Safety Zones**

Past river crisis events have displayed an outstanding level of cooperation between industry and the government. Few Safety Zones have been required within the COTP zones. Proactive efforts on the part of all involved parties will ensure that this partnership continues.

However, when a safety zone is required the COTP/CCGF will enact one. As a Safety Zone is a temporary modification to local navigation regulations issued under the Ports and Waterways Safety Act, failure to comply with one carries stiff penalties. Safety Zones may be as elemental as temporarily requiring vessels to transit to one side of a channel in order to avoid a possible obstruction or as complete as the total closure of a section of the river to all traffic. Generally, total closure of the river will only be mandated when an accident blocks the channel or conditions are simply too extreme to risk operating.

## **COTP Orders**

Captain of the Port Orders are specific directions to an individual, facility, or vessel. They are detailed and exact in scope. Issued under the authority of the Ports and Waterways Safety Act, compliance with COTP Orders is required - and failure may result in civil or criminal penalty action. In general, COTP

Orders will only be used when a terminal or vessel appears to be operating in an unsafe manner or to reduce damage to the environment or property.

## **Specific Incident Management (i.e., Breakaways, Sinkings, or Spills/Releases)**

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### **Barge Breakaways**

Barge breakaways from fleeting areas at any time pose a tremendous risk to river traffic and to downstream fleets and facilities. This risk is accentuated during periods of high or fast water, in that there may not be any vessels capable of responding before the vessel causes damage. Further, a breakaway barge which sinks may block a channel - requiring the closure of the river pending the barge's salvage. As salvage operations are usually delayed until river levels have dropped to safe levels (often at or near normal pool), this extended closure will exacerbate the impacts to commerce caused by the initial river crises.

Fleet operators are required to take such actions as are necessary to prevent breakaways.

Vessels in the vicinity of a breakaway are requested to assist in recovering the barges and ensuring that they are safely secured to either the original fleeting area or to another designated fleeting area (with the permission of the fleeting area owner). Under no conditions are barges to be secured to the shore in a non-designated area.

In the event a breakaway is discovered, it shall be reported to the U. S. Coast Guard Group Ohio Valley and nearest USACOE Lock and Dam via VHF radio channel 16 or telephone and/or the local Marine Safety Office. Under no circumstances should this notification delay the taking of such action as may be necessary to prevent the breakaway from damaging down river fleets or facilities! If necessary, take action - then notify the Coast Guard.

Each barge involved in a breakaway incident is considered to be being operated in a negligent manner. Barges which breakaway from fleeting areas during high water events will result in investigations by the Coast Guard and USACOE.

### **Sunken Vessels**

As with breakaway barges, sunken vessels pose a potential risk to river traffic - and may cause significant delays if they block the navigational channel. Sunken vessels are to be marked with lighted buoys in accordance with Coast Guard Regulations and are to be salvaged as rapidly as possible. Vessels sunken in permitted fleeting areas must be removed within the conditions of the facility permit.

Incident specific requirements for sunken vessels will be established by the COTP/CCGF and may include the establishment of Safety Zones, closure of river traffic, required attendance of towboats on-scene to assist others in avoiding the wreck, etc. Operators must develop salvage plans and inform the command center of all expected actions.

Sunken vessels may also pose an additional risk during periods of low water. There are numerous sunken or derelict vessels in the inland rivers which have been abandoned or determined not to require immediate salvage. These sunken/abandoned vessels are monitored by the Coast Guard and the USACOE. Usually, they are along the banks of the river and are clearly visible during normal pool. However, in some cases these wrecks may only be

visible - and may pose a hazard - during low water. Vessel's engaged in "running the willows" run a heightened risk of striking such obstructions.

### **Spills and Releases**

High/fast water conditions - especially flooding as was seen in early 1997 - often result in numerous releases of oil or hazardous materials. Many of these releases are small in scope and unrecoverable. However, care must be taken to ensure that releases are prevented. Areas of particular concern include vessel fueling operations (especially midstream!), barge loading/off-loading operations, and potentially submerged portions of facilities which contain tanks or lagoons. Spills and releases which occur during periods of river crisis will be investigated as during normal periods, with appropriate enforcement action initiated by the COTP/CCGF.

## Personnel and Resources

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### Coast Guard Personnel

Primary personnel for the response to a river crisis will be supplied by the Marine Safety Offices, augmented by Coast Guard Reservists and/or Auxiliarists as necessary. With low authorized strengths of active duty personnel, even a moderate event will probably necessitate some augmentation.

Activation of Coast Guard Reservists for duty may be either voluntary or involuntary. In either case, permission for the call up must be obtained from higher authority (CCGD8 for voluntary call up, the Commandant for involuntary). These personnel form the core of any call up, as they possess area familiarity. Additional reserve personnel may be obtained via the Eighth District if needed.

Past incidents on the Ohio River have highlighted the capabilities of the Auxiliary. During the 1996 and 1997 floods, Auxiliarists were placed under the OPCON of the CCGF. They assisted in staffing Command Posts around the clock and acted as liaisons with the Emergency Operations Centers. Additionally, Auxiliary members conducted regular patrols and provided the CCGFs with information about remote sectors of their zones. Any activation of CCGF should include a request to the Director of Auxiliary in Louisville for their assistance.

### Aviation Assets

Coast Guard aircraft may be available to support CCGF operations during periods of river crisis. Three primary Air Stations would supply such support: AIRSTA New Orleans, LA; AIRSTA Elizabeth City, NC ; and AIRSTA Detroit, MN. Additional fixed wing support might also be obtained by AIRSTA Elizabeth City (C-130 "Hercules") or AIRSTA Mobile, AL (HU-25 "Falcons").

Any aircraft shifted to the OPCON of the CCGF will require support (fuel, etc.) available at local airports and may require equipment and supplies available only from a Coast Guard Air Station. Often, use of deployed support teams from one of the AIRSTA's to provide the necessary maintenance and support is possible.

Each airframe has specific strengths and weaknesses. The HH-65 "Dolphin" helicopter has limited range/flight duration and minimal passenger capacity, but is the lightest of the air craft, capable of landing on virtually any helipad in the area. The HH-60 "Jayhawk" has greater range/flight duration, but cannot land on most of the helipads available. The C-130 and HU-25 aircraft require lengthy runways - meaning they are only capable of landing at a well developed regional airport. The Commander of the deployed air crew and/or the Operations Officer of the supplying air station can assist in making support determinations.

With ANY aircraft, consideration should be given the type and duration of the missions to be flown. It is often best to obtain the aircraft and two complete crews, in order to utilize the airframe most effectively while staying within crew fatigue safety limits.

## **DRUs**

A Disaster Response Unit (DRU) consists of one officer and at least six additional enlisted personnel, E-6 and below. The actual composition of the units may vary. For example, during flood operations, it is necessary to ensure "boat operator" qualifications are current and that adequate outboard engine maintenance is available. Equipment for flood response DRUs is pre-positioned throughout the western rivers.

"Home" DRUs are activated at the discretion of the CCGF. Extra-theater DRU's are activated via the Eighth District Command Center. Fortunately, activation of extra-theater DRUs is a transparent event for the CCGF: D8(cc) is tasked with identifying and activating them.

## **Army Corps of Engineers**

Each U. S. Army Corps of Engineers District on the Ohio River contains a Readiness Branch within it's Operations Division. The function of the Branch is to identify emergency situations which warrant Corps assistance, maintain liaison with the States and with other Federal agencies and manage information and deployment of emergency resources as provided for by Public Laws.

Emergency situations which warrant Corps assistance are generally limited to flood fighting and assistance provided at the request of the Federal Emergency Management Agency (FEMA). Corps assistance is supplemental to state and local efforts, and often consists of the loaning of sandbags and providing storm forecasts, hydraulic information, and other technical assistance. At the request of FEMA, the Corps has and will provide a large range of engineering and technical expertise, such as estimated damages, providing emergency contracting, providing construction management, accomplishing debris removal, establishing temporary housing, and assisting in the provision of humanitarian assistance.

In an emergency situation, the USACE District Commander may, at his discretion, activate the District Emergency Operation Center (EOC), which would coordinate USACE participation in the crisis' resolution.

## **River Industry Groups**

The Waterways Association of Pittsburgh (WWA) is an industry based association which represents the maritime industry in navigation safety, waterway infrastructure, commercial vessel regulation and maritime labor issues in the Pittsburgh AOR. Various committees of the association review matters relating to vessel safety, navigation safety, maritime industry regulatory issues and waterway infrastructure.

The Ohio River Navigation Group (Nav Group) is an ad hoc group consisting of representatives from the towboat industry, the Coast Guard, and the Army Corps of Engineers which operates in and around the Huntington zone. The committee chairperson is the principal organizer of teleconference calls, as he or she activates a telephone notification tree to arrange for all necessary participants to take part in such calls, which are then scheduled with either the telephone company or with the National Response Center by the Coast Guard.

The industry membership of the WWA and Nav Group will provide one member to stand duty as an advisor in their respective Command Posts. This member will be chosen by consensus and should be a Port Captain from one of the towboat companies in the area affected by the river crisis.

The Waterways Advisory Committee - Huntington District (WAC-HD) is an industry based organization that represents the river towing industry and industries utilizing the river mode of transportation. This organization is purely an industry based body which meets to determine action it can take, on a mutual self-help basis, to solve river transportation problems within the Huntington zone. Members of the WAC-HD comprise part of the industry portion of the Nav Group.

The River Terminal Operators Association (RTOA) represents the marine terminal operators of the Pittsburgh AOR in port safety and facility regulation matters. It also provides a forum for marketing and networking among marine and intermodal terminals.

The Big Sandy River Improvement Committee (BSRIC) is an industry based organization which has as its focus the users of the Big Sandy River. Members of the BSRIC comprise part of the industry portion of the "Ice" Committee for issues pertaining to the Big Sandy River.

The Kanawha River Improvement Committee (KRIC) is an industry based organization which has as its focus the users of the Kanawha River and its tributaries. Members of the KRIC comprise part of the industry portion of the Nav Group for issues pertaining to the Kanawha River.

The Three Rivers Pollution Response Council represents a Coast Guard/Marine Industry partnership effort to meet the oil spill prevention and response mandates of the Oil Pollution Act of 1990 (OPA 90). The Council assists members in planning, organizing, drilling and training for all oil spill responses.

The Ohio River Ice Committee is an industry based organization which represents commercial users of the Ohio River.

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## Public and Media Relations

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### General

The general public has a major stake in the timely restoration of marine commerce following a river crisis. Extended river closures have a tremendous impact on local and regional economies. The flow of basic, everyday essentials such as gasoline, building materials, coal, and farm products is either stopped or diverted to a more expensive mode when a natural disaster such as drought or flood impedes river traffic.

Although consumers typically bear the burden, river communities have opposed and delayed the restoration of river traffic for fear that vessel movements might advance the damage already sustained. In many cases, this fear is due to a failure of government and industry to effectively communicate the actions they have taken to ensure that traffic can flow safely during periods of restricted navigation.

Timely traffic restoration requires the understanding, support and cooperation of both the general public and the impacted river communities.

### JPIC

Information sharing is a key element in fostering public support and cooperation. Just as an ICS manages the flow of traffic, a Joint Public Information Center (JPIC) can greatly assist in managing the flow of information. During the initial event planning stage, JPIC activation should be given a high level of consideration. Its mission should be:

- Provide timely and accurate information for media consumption.
- Establish an "affected community" information network.
- Promote a positive government-industry partnership image.

Basic activities performed by the JPIC may vary from event to event.

### Public Information Guidance

Guidance should be provided to the JPIC which outlines the action it should take in meeting the unified command's information sharing responsibilities. During a river crisis, these guidelines should be developed by the Information Officer and approved by the unified command. The following public information activities should be included:

- *Daily or periodic media releases.* Describe the coordination and scheduling of information releases. Schedules should target local news programs and printed publications.
- *Recorded messages and fax on demand services.* For lengthy and/or severe incidents, these services can be of great benefit. They typically utilize an 800 number and offer either a recorded message or caller initiated fax transmission.
- *World Wide Web Sites.* For an extended event involving a high level of media attention, the establishment of an Internet site to disseminate information to the media and general public may afford an excellent methodology. Describe what types of information could be disseminated and who would maintain the site.

- *Media briefings and news conferences.* Media briefings and conferences should be outlined. Development of materials for individual and pooled sessions should be described.
- *Affected community direct lines.* Utilizing the Multi-Agency Coordination Group (MAC Group) system outlined in the NIIMS ICS/UCS, the means and level of access to affected community groups, responsibility for promoting cooperation and acceptance should be described.
- *Coordinated site visits.* The use of site visits should be described. These events bring public officials, media, and ICS/UCS personnel together to foster assurances and show efforts.

## **Public Information Releases**

Under ideal circumstances the JPIC will be the sole provider of crisis information to the public. Unfortunately, misinformation, speculation and rumors surface, often raising the level of anxiety and frustration beyond that aroused by the crisis itself. To minimize this problem, the following actions should be taken:

- *Proactive distribution.* The JPIC should create an information distribution chain applicable to the crisis at hand. Identifiable impacted parties should be regularly updated. Each impacted party should be considered a potential avenue to the general public. They should be provided the same safety, economic and operational information that the JPIC provides the press or other media sources.
- *Timeliness of communications.* The JPIC must not only establish itself as the official information source, it must establish itself as the most current source of information. This will discourage the media and other interested individuals from seeking alternative sources. Timeliness is often the key. This may require daily or twice daily information releases.
- *Common message.* The JPIC should work with the agencies, the industry, and other affected parties to orchestrate a common message. Recipients of network distributions should continuously be prompted with key messages - safety, security, environmental protection - that capture the essence of the crisis restoration efforts. Distribution recipients should be encouraged to refer media calls to the JPIC for handling rather than speculating on crisis management efforts and successes. Industry representatives who typically receive media calls should be encouraged to confine their comments to the specific impact the crisis is having on their business and refer crisis restoration questions to the JPIC.
- *Media Contacts.* JPIC personnel, and other crisis management staff, should be prepared at all times. The USCG and USACOE public affairs offices can provide guidelines and assistance.

## **Event Closure**

Closure is critical to any crisis management process. The public needs to know when the crisis is resolved. The JPIC can play a key role in how that message is received. The inland rivers typically receive very little attention or notoriety. A river crisis is one of the few times the public actually hears about the waterways, and that generally comes with the negative overtone of flood, drought or catastrophe. The conclusion of a crisis should be viewed as an

opportunity to highlight successes, lend praise to those involved, and reinforce already stimulated public awareness of the economic and environmental advantages of river transportation.

The draw down of traffic management efforts and the safe, successful restoration of river operations are newsworthy items. Likewise, the inter-agency cooperative efforts and the value of a restored river make excellent feature stories. The JPIC staff should find ways to publicize and celebrate the closure. The following might be applicable:

- *Symbolic river opening.* The JPIC could draw together industry and political leaders to participate in a reopening ceremony. CEO's and Congressional leaders would meet to celebrate the commencement of river transportation.
- *Award Ceremonies.* The JPIC could arrange for localized award ceremonies recognizing the efforts of community members as well as industry and agency personnel.
- *Media vessel rides.* JPIC staff members could invite media staff to participate in a reopening river ride to better understand the impact of the closure, safety considerations, levee concerns, and other topics previously communicated during the crisis.

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## Communications

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### General

This chapter provides guidance on the methods of communicating and receiving information. Poor communications can cause significant problems during a navigation crisis. Towboat operators may make dangerous operating decisions, recreational boaters may operate in perilous waters and businesses could make costly decisions if they are not armed with timely and accurate information. Effective communications must be a key focus of any crisis management plan.

Communications has three distinct phases: collection, processing, and dissemination. Under an N-Staff structure, N-6 (Command, Control, and Communications) is responsible for each phase. Under ICS/UCS, the Planning Section has the overall responsibility for ensuring that communications requirements are being met. The Section Chief must work closely with the Logistics Section Chief when installing and setting up communications equipment, and must rely on the Operations and Joint Public Information Center Staff to collect and disseminate information.

### Communications Methods

During a river crisis incident, multiple groups may become interested in issues ranging from current conditions and forecast conditions on the river to the specific response activities taking place. It is important that communications be tailored to the target audience. For example, a high degree of detail is not as important to recreational boaters as it is to commercial barge companies. Additionally, communication of information during a crisis must minimize reliance of voice to voice contact (with specific exceptions as outlined below). Voice to voice communication, although the most reliable, is time consuming, inefficient, and subject to misunderstanding and misinterpretation.

The very best method of communicating information in a standard and effective manner is by using technology such as fax on demand, auto attendant phone systems, and the Internet. There are a number of Internet sites available from the USACOE, NWS, USCG, local media, and the private sector which provide a wealth of information - and may be excellent vehicles for distributing information from the crisis response staff.

- *Fax.* Perhaps the easiest way to release information, fax on demand systems require an initial capital outlay for equipment - but return a tremendous set of advantages. By calling a fax on demand number, its menu driven system allows the caller to retrieve as much or as little information as is desired. Fax trees also offer a simple yet effective approach to the delivery and receipt of information. Fax trees are nothing more than a list of individuals (with their fax numbers) that require similar information. Once the fax machine is programmed with the receivers' fax numbers, information can be rapidly sent to multiple sites at the push of a button. Fax trees are best suited for relatively small audiences, such as industry groups, that require frequent updates on specific issues.
- *Internet.* The Internet offers a convenient approach for delivering and receiving general information, such as weather conditions and river stage forecasts. Additionally, the USCG maintains a "web site" on the Internet for communicating a variety of information such as Notices to mariners, pending marine regulations and advisories. The Internet is a cost

effective and extremely accessible approach to delivering information to a very large audience during a crisis. Unfortunately, the Internet requires expertise in the establishment and maintenance of a "site." Such expertise might be contracted for at a commercial service provider - or may be available on a voluntary basis from such sources as other units, an industry site, or the media.

- *Auto Attendant Telephone.* Menu driven phone systems (auto attendant systems) can also be used to deliver timely information on specific topics, such as conditions on the rivers, lock status or weather forecasts. An auto attendant phone system offers ease in updating information and provides answers to frequently asked questions without using valuable staff time.
- *Meetings.* Meetings with key groups may sometimes be necessary and could be fruitful during critical stages of a navigation crisis. Meetings should have set time limits, an agenda, and someone assigned to record the minutes. After the meetings, all parties should be provided with minutes within 24 hours. Meetings need not take place with all parties in one location; teleconferences and video conferences offer an inexpensive and efficient approach without the cost and time associated with traveling to a meeting site. Daily - or even more frequent - teleconferences have proven highly effective in bringing all players in a crisis situation into a consensus as to necessary actions, and to briefing them on current and forecast conditions.
- *Person to Person Contact.* There is a time when person to person contact is the very best way to communicate during a crisis. Personal attention to the concerns of key customer's during a river crisis, such as levee boards or local politicians, can eliminate feelings of mistrust, or apprehension. Clearly the use of person to person contact takes more time than other communication approaches, and therefore should be used judiciously. However, it is a means of communication that must be used when other approaches fail to convey the empathy and understanding necessary to assuage a customer's concerns.
- *Radio Communications.* As has been noted elsewhere in this plan, radio communications can prove highly effective in disseminating information. Urgent Marine Information Broadcasts, Safety Broadcasts, and Local Notices to Mariners all get the word out to the river using community. Unfortunately, two potential problems are associated with the use of radios: Not all river users carry radios (specifically the recreational boating public) and there exist numerous 'dead' areas throughout the Ohio River Valley where radio broadcasts from pre-established high sites cannot be received.

## Chapter 7: Funding

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### General

Response operations during a navigation crisis - as with any other form of operations - require funding. While the Logistics Section may be fully ready to procure a needed part for a small boat, they still require the money to make the acquisition. Specific methods have been pre-planned for such funding issues. Of note, however, is that all methods require careful documentation - as in many instances reimbursement from such agencies as FEMA may become possible after the incident.

### Coast Guard Funds

Four primary avenues exist for the funding of Coast Guard operations during a river crisis.

- *Use of unit funds.* During the initial hours of a crisis, unit operating funds may be expended, subject to reimbursement. Care must be exercised, however, to ensure that the limited budget of the MSO is not expended completely - and that funds remain for when normal operations resume.
- *Use of I.M.P.A.C. Credit Cards.* Far preferable to the use of unit funds is the use of a specially programmed I.M.P.A.C. Visa credit card. Each inland river unit Executive Officer has been assigned a Visa card which is specially programmed to access the Coast Guards Flood Response Account. However, activation of the account requires the approval of the District Commander - which may take time.
- *Oil Spill Liability Trust Fund (OSLTF).* The OSLTF, managed by the National Pollution Funds Center (NPFC), provides money for response operations involving oil. Access to the fund is via established procedures as outlined in the HERO Plan and more fully in Eighth District Policy and the NPFCs Technical Operating Procedures Guide.
- *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Funds.* Also known as "The Superfund," CERCLA funds are similar in nature and access methods to the OSLTF but are specifically targeted for responses involving hazardous materials. Again, access procedures are outlined in the HERO Plan and more fully in Eighth District Policy and the NPFCs Technical Operating Procedures Guide.

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## **Recovery/Termination of Operations**

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### **General**

During a high or low water event, response efforts will focus, as with any crisis response, on the protection of life, property, and the environment. As water levels stabilize and/or improve, recovery efforts will begin to take priority. The following are the primary mission areas around which recovery operations will focus:

### **Identification/Removal of Debris/Hazards to Navigation**

If a river crisis has been severe and the likelihood of multiple environmental incidents high (oil spills, chemical releases, etc.), an environmental impact assessment team will be formed and escorted throughout the zone by members of local MSO. This team will consist of members of the USCG Atlantic or Gulf Strike Teams, U.S. EPA, FEMA, and various other state and local agencies possessing environmental and public health responsibilities. The removal of any large, unusual, or potentially hazardous debris (floating drums or propane tanks, explosives, ammunition, fireworks, etc.) will be the responsibility of the owner/local vendor. If an owner cannot be identified, the appropriate response agency (USCG, EPA, etc.) will arrange to contract the services of a competent professional response contractor.

Mariners spotting debris capable of impacting navigation are urged to contact the nearest incident command post which will maintain and publish a list of debris which cannot be recovered immediately. Potentially hazardous debris will be marked by the appropriate entity (owner/responsible party, USCGC OSAGE, USCGC OBION, USACOE, private contractor) until recovery can be effected.

The USACOE is primarily responsible for coordinating the removal of miscellaneous floating debris which accumulates in and around Locks and Dams and which represents a hazard to navigation.

### **Recovery/Salvage of Sunken Barges**

While the ultimate responsibility for locating and salvaging sunk or missing barges rests with the barge owner, operator or leasee, a salvage committee consisting of Coast Guard, USACOE, area salvage contractors, and WWA representatives will be appointed to coordinate salvage/removal operations. The designated Coast Guard Buoy Tender and possibly additional commercial resources will work with the local USACOE in deploying side scanning sonar technology to sweep the entire affected portion of the area's rivers and provide a sunken barge/submerged object report to the salvage committee. Armed with this information, the salvage committee will construct a prioritized schedule and timeline for recovery of objects based upon the degree to which they pose a hazard to navigation or threaten the port or the environment. The salvage committee will forward frequent and regular updates via phone and fax to the command post to enable the Unified Command to make informed decisions regarding the enactment or lifting of river restrictions and closures.

### **Restoration of River Aids to Navigation (ATON)**

Each stretch of the Ohio River has a designated Coast Guard Buoy Tender for ATON. This cutter, either under the direct control of the CCGF or coordinated by Group Ohio Valley and its crew will assess impacts on ATON and provide timelines for complete restoration of area river aids. The cutter will work with the salvage committee and the command post to ensure that all safety and commercial concerns are considered before setting ATON restoration priorities.

## Chapter 9: Hydrology

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### Hydrological and Meteorological Factors Affecting Waterways Management

#### General

The Ohio River and its tributaries form a complex waterway system spread out over millions of square miles. In order to predict changes in conditions in this system, waterway managers must constantly monitor a number of hydrological and meteorological factors. These include water flow, soil moisture, snow cover, precipitation, temperature, weather patterns and most importantly, geography. Effective waterway managers must constantly monitor these factors and forecast river conditions in order to ensure they are adequately prepared to deal with a regional transportation emergency.

Numerous variables affect how much water is in the system at any given time. Listed below are some of the key variables:

#### Base Flow

The amount of water flow (measured in cubic feet per second (cfs)) along a section of river (usually measured at a dam). The USACOE has established an average flow rate for each section of a river. Average rates are based on flows consistent with normal weather patterns. A comparison of the actual flow against the base flow is an indicator of increased or decreased water levels. The flow rate does not provide an indication of the duration of increased/decreased flows. Base flows and flow rate information are available from the USACOE.

#### Soil Moisture

The amount of moisture concentrated in the soil. High soil moisture content means a large percentage of new precipitation will not be absorbed into the soil. This will result in increased runoff and a corresponding increase in water levels. Soil moisture averages and current levels are available from the U. S. Geological Survey (USGS) and State water/soil conservation agencies.

#### Precipitation

The amount of rain/sleet, etc. This becomes runoff and impacts water levels in the river systems. The amount and duration of precipitation are equally important factors. Precipitation averages and totals can be obtained from the USGS, the National Oceanic and Atmospheric Association (NOAA), the National Weather Service (NWS) and State agencies.

#### Snow Cover

Snow cover is the buildup of snow that will melt and enter the water table and/or turn into runoff. Increase in snow cover will result in a corresponding increase in runoff and spring water levels. Information on snow cover can be obtained via NOAA, NWS, and State weather services.

#### Temperature

Average fall and winter temperatures determine the depth of frost, the amount of water entering the soil, and the amount and duration of river ice. Below normal temperatures in the fall and winter increase the depth of frost, allowing less water to enter the soil during periods of precipitation, increasing the amount of runoff. This situation may also cause an increase in ice and subsequent problems due to ice dams or gorges, and difficulties with the lock and dam system. Above normal temperatures in the spring increases the amount of runoff from snow melt. Temperature information is available from USGS, NOAA, NWS, and State agencies.

**Geography/Terrain**

The physical characteristics of the river bend and shoreline. These characteristics impact river currents and the rate of change in water levels. Steep banks, levees, revetments, narrow channels, rock bottoms, adjacent flood plains and wetlands are just a few of the factors that determine how the river will rise or fall. In addition, geography has an effect on ice build up, the effect of flooding, the time and complexity of maintenance and dredging and the effectiveness of traffic control measures.

**River Slope**

Rivers slope downstream toward their mouths. Slope is the change in elevation of the river, expressed as a ratio of the change in elevation between reference points and the number of miles between reference points. A working knowledge of slope is one of the best tools to quickly determine river conditions and the duration of low/high water events. As flow rates from the upper dams increase, the slope will increase as the upper end of the river in the vicinity of the upper dam increases in depth. If the increased flow rates remain constant, water levels downstream will rise and be sustained. As upper river water flows decrease, the river slope will decrease and water levels will crest sequentially down the river. The term for this decrease in flow and subsequent decrease in slope is called "leveling." Once the crest has passed through the system, and flow rates become more consistent, water levels and slope will return to normal.

"Leveling" also occurs when low water conditions prevail in the system. As the dams reduce flow in order to maintain their pools, less water becomes available downstream. As each successive dam reduces flow to maintain the nine foot channel, short term low water is caused in the next pool downstream until that dam holds enough water to maintain its required level. When dams are only able to maintain minimum pool or unable to maintain a minimum channel depth, traffic management may have to be initiated.

**Weather Pattern Changes**

Changes in weather patterns impact the river system by themselves and in conjunction with the factors listed above. One of the best known examples of this is the abnormal pattern that contributed significantly to the Great Flood of 1993. In this case, a wet-weather pattern persisted over the upper Midwest for over six months. This was caused by a weather front convergence zone which generated frequent and prolonged thunderstorms. In addition to the excessive rain, the area experienced an early snow melt, increasing spring runoff.

## Appendix A: Authorities and Responsibilities

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<b>General</b>	The successful management of any river crisis is dependent on the cooperation of the waterway system participants. This includes agencies of the federal, state, and local governments, industry groups, and the general public. This chapter identifies the key organizations in these areas, outlines their authority and responsibilities, and explains their during a river crisis.
<b>Federal Agencies</b>	The United States Code (USC) provides regulatory authority for establishing and authorizing work or structures constructed within the navigable waterways and maintaining navigation throughout U. S. territorial waters. Included as part of a national waterway system are numerous rivers, lakes and streams that comprise the inland waterway system. Navigation on these "navigable waters of the United States" are regulated primarily by the USCG. The USACOE provides technical advice to the USCG to enable them to properly evaluate and make decisions on navigation safety matters. The USACOE is also responsible for authorizing waterway projects, evaluating and maintaining navigable channels, and directing emergency flood control operations (such as activation of spillways).
<b>U.S. Coast Guard</b>	Title 14, USC, defines USCG roles and responsibilities in establishing and maintaining the safety of ports and waterways. 33 CFR Part 165.20 gives COTP's and USCG District Commanders the authority to impose safety zones, security zones, and other restrictions to ensure the safe flow of navigation. Activities of the COTPs are overseen by the Commander, Eighth Coast Guard District, in New Orleans, LA.
<b>U. S. Army Corps of Engineers</b>	Title 33, USC, defines the USACOE roles and responsibilities regarding development of, or change to, waterfront facilities, weirs, dams or dikes. Specifically, the USACOE is authorized to review and approve all changes to hydrodynamic structures for the purposes of maintaining a navigable channel. In addition, the USACOE is charged with conducting operations to maintain the physical nature of a navigable channel on particular waterways. Generally, the USACOE has the responsibility to maintain a 9 foot Congressionally authorized project depth within the navigable channel on the Ohio River System. The USACOE is also responsible for directing emergency flood control operations and collecting information on flood stages and damage.
<b>State and Local Governments</b>	State and County Emergency Management personnel, Levee District managers, County Commissioners, City Mayors and local public safety personnel represent local interests and can significantly impact traffic management decisions. Though it is not always practical to involve local interests in traffic management decisions, particularly when they involve federal statutory requirements, State Emergency Management Agencies should be consulted and informed of decisions that may have an effect on local levees, waterways, and overall public safety. If necessary for successful problem resolution, the Command Staff may consider extending an invitation to a state or local agency to participate in a particular emergency traffic event. However, strong consideration should first be given to establishing a Multi-Agency Coordination Group (MAC Group) comprising such local interests.
<b>Industry Groups</b>	As the principal river users and experts, industry groups should be called upon to provide assistance during waterway management activities.

- *The Waterways Association of Pittsburgh (WWA)* is an industry based association which represents the maritime industry in navigation safety, waterway infrastructure, commercial vessel regulation and maritime labor issues in the Pittsburgh AOR. Various committees of the association review matters relating to vessel safety, navigation safety, maritime industry regulatory issues and waterway infrastructure.
- *American Waterways Operators.* AWO is an association of commercial vessel owners and operators throughout the country. Their primary constituent is the commercial vessel towing industry, which is the principal industry group represented on the Western Rivers. The AWO provides advice and assistance and works with the USCG and USACOE on numerous initiatives. Most recently, the AWO signed a partnership agreement with the USCG to identify ways to work together more efficiently towards the common goal of commercial vessel safety.
- *The Ohio River Navigation Group* is an ad hoc group consisting of representatives from the towboat industry, the Coast Guard, and the Army Corps of Engineers which operates in and around the Huntington zone. The committee chairperson is the principal organizer of teleconference calls, as he or she activates a telephone notification tree to arrange for all necessary participants to take part in such calls, which are then scheduled with either the telephone company or with the National Response Center by the Coast Guard.
- *The Waterways Advisory Committee - Huntington District (WAC-HD)* is an industry based organization that represents the river towing industry and industries utilizing the river mode of transportation. This organization is purely an industry based body which meets to determine of action it can take, on a mutual self-help basis, to solve river transportation problems within the Huntington zone. Members of the WAC-HD comprise part of the industry portion of the Nav Group.
- *The River Terminal Operators Association (RTOA)* represents the marine terminal operators of the Pittsburgh AOR in port safety and facility regulation matters. It also provides a forum for marketing and networking among marine and intermodal terminals.
- *The Big Sandy River Improvement Committee (BSRIC)* is an industry based organization similar to the WAC-HD which has as its focus the users of the Big Sandy River. Members of the BSRIC comprise part of the industry portion of the Nav Group Committee for issues pertaining to the Big Sandy River.
- *The Kanawha River Improvement Committee (KRIC)* is an industry based organization similar to the WAC-HD which has as its focus the users of the Kanawha River and its tributaries. Members of the KRIC comprise part of the industry portion of the Nav Group for issues pertaining to the Kanawha River.
- *The Three Rivers Pollution Response Council* represents a Coast Guard/Marine Industry partnership effort to meet the oil spill prevention and response mandates of the Oil Pollution Act of 1990 (OPA 90). The

Council assists members in planning, organizing, drilling and training for all oil spill responses.

- *The Ohio River Ice Committee* is an industry based organization which represents commercial users of the Ohio River.

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## Appendix B: Sample Broadcast Notices to Mariners

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### General

As outlined in Chapter 10, certain standard radio broadcast notices may be made, depending upon the specifics of a river crisis. These standard broadcasts are given below. The examples refer to incidents in the Ohio River Valley area and can be modified for use in any geographic area within the river system. Additionally, modified versions may (as appropriate) be made to address specific, localized conditions.

### Low Water BNTM

"THE COTP \_\_\_\_\_, REQUESTS THAT ALL MARINERS PROCEED WITH CAUTION AND REMAIN IN THE NAVIGATIONAL CHANNEL ON THE \_\_\_\_\_ RIVER DUE TO DECREASING WATER LEVELS. ALL VESSELS MUST MONITOR CHANNEL DEPTHS AND ENSURE THAT ADEQUATE WATER EXISTS FOR THEIR VESSEL DRAFT. VESSEL DRAFTS SHALL NOT EXCEED \_\_\_\_\_ WHEN THE LOWER GAUGE READS \_\_\_\_\_ FT. ALL GROUNDING SHALL BE REPORTED TO USCG GROUP OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7565."

### Fast Water BNTM

"THE COTP \_\_\_\_\_, REQUESTS THAT ALL MARINERS PROCEED AT NO WAKE/SAFE MANEUVERING SPEEDS AND REMAIN IN THE NAVIGATIONAL CHANNEL ON THE \_\_\_\_\_ RIVERS IN THE VICINITY OF ALL FLEETS AND HARBORS, DUE TO HAZARDOUS NAVIGATIONAL CONDITIONS. HIGH CURRENT VELOCITIES AND OUTDRAFT CONDITIONS EXIST AT ALL LOCKS WITHIN THE COTP \_\_\_\_\_ ZONE. MARINERS ARE URGED TO EXERCISE EXTREME CAUTION WHILE TRANSITING THESE (THESE)/(THIS) AREA(S). ALL VESSELS MUST HAVE ADEQUATE HORSEPOWER TO MAINTAIN CONTROL OF THEIR TOWS. ALL FLEET OPERATORS SHALL REGULARLY CHECK THEIR FLEETS. ANY BARGE BREAKAWAYS SHALL IMMEDIATELY BE REPORTED TO USCG GROUP OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7565."

### High/Fast Water BNTM

"THE COTP \_\_\_\_\_, REQUESTS THAT ALL MARINERS PROCEED AT NO WAKE/SAFE MANEUVERING SPEEDS AND REMAIN IN THE NAVIGATIONAL CHANNEL ON THE \_\_\_\_\_ RIVERS IN THE VICINITY OF ALL FLEETS AND HARBORS, DUE TO INCREASED RIVER FLOWS AND STAGES. HIGH CURRENT VELOCITIES AND OUTDRAFT CONDITIONS EXIST AT ALL LOCKS WITHIN THE COTP \_\_\_\_\_ ZONE. BRIDGE PIERS SHOULD NOT BE PASSED TOO CLOSELY, DUE TO THE POSSIBILITY OF THE WIDER BASE BEING SUBMERGED BY HIGH WATER. MARINERS ARE URGED TO EXERCISE EXTREME CAUTION WHILE TRANSITING (THESE)/(THIS) AREA(S). ALL VESSELS MUST HAVE ADEQUATE HORSEPOWER TO MAINTAIN CONTROL OF THEIR TOWS. ALL FLEET OPERATORS SHALL REGULARLY CHECK THEIR FLEETS. ANY BARGE BREAKAWAYS SHALL IMMEDIATELY BE REPORTED TO USCG GROUP OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7565."

### Drift Conditions BNTM

"THE COTP \_\_\_\_\_, REQUESTS THAT ALL MARINERS PROCEED AT NO WAKE/SAFE MANEUVERING SPEEDS AND REMAIN IN THE NAVIGATIONAL CHANNEL ON THE \_\_\_\_\_ RIVER(S) DUE TO EXTENSIVE DRIFT CONDITIONS. MARINERS ARE URGED TO EXERCISE EXTREME CAUTION AS THE POSSIBILITY EXISTS FOR VESSEL OR TOW DAMAGE. ALL FLEET OPERATORS SHALL REGULARLY CHECK

THEIR FLEETS FOR DRIFT BUILDUP AND TAKE APPROPRIATE ACTION TO RELIEVE DANGEROUS SITUATIONS. BARGE BREAKAWAYS SHALL IMMEDIATELY BE REPORTED TO USCG GROUP OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7565."

**Ice Conditions BNTM**

"THE COTP \_\_\_\_\_, REQUESTS THAT ALL MARINERS PROCEED AT NO WAKE/SAFE MANEUVERING SPEEDS AND REMAIN IN THE NAVIGATIONAL CHANNEL ON THE \_\_\_\_\_ RIVER(S) DUE TO ICE CONDITIONS. MARINERS ARE URGED TO EXERCISE EXTREME CAUTION AS THE POSSIBILITY EXISTS FOR VESSEL OR TOW DAMAGE. ALL FLEET OPERATORS SHALL REGULARLY CHECK THEIR FLEETS FOR ICE BUILDUP AND TAKE APPROPRIATE ACTION TO RELIEVE DANGEROUS SITUATIONS. BARGE BREAKAWAYS SHALL IMMEDIATELY BE REPORTED TO USCG GROUP OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7565."

## Appendix C: Sample Safety Zone

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***THE FOLLOWING SAMPLE SAFETY ZONE IS NOT IN FORCE AND IS GIVEN HERE  
SOLELY TO ILLUSTRATE THE SPECIFICS OF SUCH A DOCUMENT.***

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Part 165

RIN 2115-AA97

COTP \_\_\_\_\_ 98-002

Safety Zone; \_\_\_\_\_ River, mile XX.X to mile XX.X.

AGENCY: Coast Guard, DOT.

ACTION: Temporary final rule.

SUMMARY: The Coast Guard is establishing a safety zone on the \_\_\_\_\_ River between miles XX.X and XX.X. This regulation is needed to control vessel traffic in the regulated area to prevent potential safety hazards for vessels transiting the area resulting from \_\_\_\_\_. This regulation prohibits navigation in the regulated area during periods of periodic closures without the express permission of the Captain of the Port \_\_\_\_\_ for the safety of vessel traffic and the protection of life and property along the river. Periods of closure will be announced via normally scheduled Coast Guard Broadcast Notice to Mariners or by Coast Guard personnel on scene.

EFFECTIVE DATE. This regulation is effective on \_\_\_\_\_, 1998, at XX:XX x.m. (EDT)(EST). It terminates on \_\_\_\_\_, 1998, at XX:XX x.m. (EDT)(EST), unless terminated sooner by Captain of the Port.

FOR FURTHER INFORMATION CONTACT: LT \_\_\_\_\_, Chief of the Port Operations Department, Captain of the Port, \_\_\_\_\_, \_\_\_\_\_ at (XXX) XXX-XXXX.

SUPPLEMENTARY INFORMATION:

Drafting Information

The drafters of this regulation are \_\_\_\_\_, Project Officer, Marine Safety Office, \_\_\_\_\_, \_\_\_\_\_ and Mr. \_\_\_\_\_, Project Attorney, Coast Guard District Eighth (mov-1), New Orleans, LA.

Regulatory History

In accordance with 5 U.S.C. 553, a notice of proposed rulemaking was not published for this regulation and good cause exists for making it effective in less than 30 days from the date of publication. Following normal rulemaking procedures will be impracticable. Specifically, the nature of the removal and replacement work affecting river navigation makes river closures impossible to predict and schedule with reasonable certainty. Only certain periods of the project will represent a potential hazard to navigation, life, and property. These periodic closures are dependent upon project progress and weather. The Coast Guard deems it to be in the public's best interest to issue a regulation immediately.

Background and Purpose

The activity requiring this regulation is a

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## Regulatory Evaluation

This regulation is not a significant regulatory action under section 3(f) of Executive Order 12866 and does not require an assessment of potential costs and benefits under section 6(a)(3) of that order. It has been exempted from review by the Office of Management and Budget under that order. It is not under the regulatory policies and procedures of the Department of Transportation (DOT) (44 FR 11040; February 26, 1979). The Coast Guard expects the impact of this regulation to be so minimal that a full Regulatory Evaluation under paragraph 10e of the regulatory policies and procedures of DOT is unnecessary, due to the limited duration of the river closure.

## Small Entities

The Coast Guard finds that the impact on small entities, if any, is not substantial. Therefore, the Coast Guard certifies under section 605(b) of the Regulatory Flexibility Act (5 U.S.C. 601 et seq) that this temporary rule will not have a significant economic impact on a substantial number of small entities.

## Collection of Information

This rule contains no collection of information requirements under the Paperwork Reduction Act (44 U.S.C. 3501 et seq).

## Federalism Assessment

The Coast Guard has analyzed this regulation under the principles and criteria contained in Executive Order 12612 and has determined that it does not raise sufficient federalism implications to warrant the preparation of a Federalism Assessment.

## Environmental Assessment

The Coast Guard considered the environmental impact of this regulation and concluded that, under section 2.B.2 of Commandant Instruction M16475.1B, (as revised by 59 FR 38654; July 29, 1994) this regulation is categorically excluded from further environmental documentation as an action required to protect public safety.

## List of Subjects in 33 CFR Part 165

Harbors, Marine Safety, Navigation (water), Records and recordkeeping requirements, Security measures, Waterways.

## Temporary Regulation

In consideration of the foregoing, Subpart F of Part 165 of Title 33, Code of Federal Regulations, is amended as follows:

### PART 165--[AMENDED]

1. The authority citation for Part 165 continues to read as follows:

Authority: 33 U.S.C. 1231; 50 U.S.C. 191; 33 CFR 1.05-1(g), 6.04-1, 6.04-6, and 160.5; 49 CFR 1.46

2. A temporary section 165.T#### is added, to read as follows:

165.T#### Safety Zone: \_\_\_\_\_ River

- (a) Location. The \_\_\_\_\_ River between miles X.X and X.X is established as a safety zone.

(b) Effective dates. This section becomes \_\_\_\_\_, 1998, at XX:XX x.m. (EDT)(EST). It terminates on \_\_\_\_\_, 1998, at XX:XX x.m. (EDT)(EST), unless terminated sooner by Captain of the Port \_\_\_\_\_.

- (c) Regulations.

- (1) Except with the permission of the Captain of the Port \_\_\_\_\_, all vessels must:

(i) Remain outside the safety zone during all periods of closure, as announced by Coast Guard Broadcast Notice to Mariners and as enforced on scene by personnel from the Coast Guard Marine Safety Office \_\_\_\_\_.

(ii) Communicate with the on-scene vessel on channel XX VHF-FM to arrange for safe passage through the safety zone at all other times, providing at least XX minutes advance notice prior to transiting through the regulated area.

(2) The Captain of the Port may direct the movement of any vessel within the safety zone as appropriate to ensure the safe navigation of vessels through the safety zone.

Dated: \_\_\_\_ \_\_, at \_\_:\_\_ a.m. EDT

<signature>

Commander, U. S. Coast Guard

Captain of the Port

Huntington, WV

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## Appendix D: Glossary

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BNTM	Broadcast Notice to Mariners
CCGD8	Commander, Coast Guard District Eighth
CCGF	Commander, Coast Guard Forces
COTP	Captain of the Port (U. S. Coast Guard)
DRU	Disaster Response Unit
DWRO	Director Western Rivers Operations
ICS	Incident Command System
MTR	Marine Transfer Related (Facilities)
NIIMS	The National Interagency Incident Management System
OPCON	Operational Control
ORV-WMP	Ohio River Valley Waterways Management Plan
UCS	Unified Command Structure
9725-95 Plan	The CCGF Disaster Response Operations Plan

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**Insert separate files for Geographic Areas here:**

**Annex I: c:\UserDocs\CPOD\RCAP\PADMS**

**Annex II: c:\UserDocs\CPOD\RCAP\LOUMS**

**Annex III: c:\UserDocs\CPOD\RCAP\HUNMS**

**Annex IV: c:\UserDocs\CPOD\RCAP\PITMS**